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IV. *A Report on the stomach of the Zariffa. By Sir EVERARD HOME, Bart., Vice-President of the Royal Society.*

Read December 24, 1829.

HAVING submitted to the KING the following report upon the stomach of the Zariffa, I am sanctioned by HIS MAJESTY's entire approbation in laying it before the Royal Society.

The stomach consists of four cavities, like those of all quadrupeds that chew the cud. The internal surface of the paunch differs in nothing from that of the bullock, but in the projecting parts being more prominent. In the second cavity the cells met with in other ruminants are too superficial to retain water. The third and fourth cavities in every respect resemble those of the bullock. The more minute structures of these parts are distinctly shown in the annexed Plates.

As the only peculiarities in the Zariffa's stomach are in the second cavity, comparative views are given of this cavity with that in the bullock and sheep.

In considering the structure of the different parts of the stomach of ruminating animals, there can be no doubt that any peculiarity met with in particular tribes is to serve the purpose of enabling them more readily to subsist upon the food which is intended by nature for their use. Of this the reservoirs for water in the stomach of the camel are a remarkable instance. In the bullock and sheep the cud formed of grass in its return after the second mastication into the stomach is rendered dry, and when it drops into the second cavity requires being re-moistened before it can be spread between the membranous folds of the third cavity; this is effected by the water contained in the cells with which this cavity is furnished. In the Zariffa the cud formed from the leaves and twigs of the acacia is so succulent as not to require being again moistened in passing through the second stomach, and therefore that cavity in this animal is not furnished with cells of the same depth as in the other animals that chew the cud.

Explanation of the PLATES.

PLATE VI.

A front view of the stomach of the zariffa, on a reduced scale of 4 inches for a foot.

PLATE VII.

A back view of the same.

PLATE VIII.

- Fig. 1.—A portion of the first cavity of the zariffa's stomach ; natural size.
- Fig. 2.—A very small portion of the same ; magnified 4 diameters.
- Fig. 3.—A portion of the second cavity of the zariffa's stomach ; natural size.
- Fig. 4.—A very small portion of the same ; magnified 4 diameters.
- Fig. 5.—A portion of the third cavity of the zariffa's stomach ; natural size.
- Fig. 6.—A very small portion of the same ; magnified 4 diameters.
- Fig. 7.—A portion of the first cavity of the bullock's stomach ; natural size.
- Fig. 8.—A very small portion of the same ; magnified 4 diameters.
- Fig. 9.—A portion of the second cavity of the bullock's stomach ; natural size.
- Fig. 10.—A portion of the first cavity of the sheep's stomach ; natural size.
- Fig. 11.—A very small portion of the same ; magnified 4 diameters.
- Fig. 12.—A portion of the second cavity of the sheep's stomach, in which the cells are deeper than in the zariffa's stomach, but less so than in the bullock's stomach ; natural size.





